specific or subspecific value to differences which are due merely to some slight difference in environment. This, it seems to me, misses the whole point. What produces species and subspecies, anyway, except slight differences in environment, together with greater or less geographic isolation? And when we see these differences why should we refuse to admit their existence or their meaning?

BARTON W. EVERMANN.
U. S. COMMISSION OF FISH AND FISHERIES.

BREATHING OXYGEN.

THE experiments here described were carried out during the course of an investigation to determine the quantity of carbon dioxide exhaled from the lungs of different persons under stated conditions.

The method of procedure was as follows: (1) Ordinary air was inhaled through the nostrils and exhaled through the mouth (the nostrils being closed) into an inverted receiver filled with water. The quantity of carbon dioxide in the exhaled gases was determined in the usual manner. (2) A mixture of air and oxygen containing 26.4 % of oxygen was inhaled and exhaled as in (1). (3) Pure oxygen was employed and the experiments conducted as in (1) and (2).

The breathing experiments were made by three different persons, A, B, and C, under conditions as nearly indentical as possible.

The following results were obtained:

A		B		C		
Exp.	CO_2	Exp.	CO_2	Exp.	CO_2	
1	3.8	10	3.6	19	3.8	}
2	5.2	11	4.4	20	5.1	} Ordinary air.
3	5.6	12	4.6	21	5.8	}
4	4.0	13	4.0	22	4.0	}
5	5.6	14	5.2	23	5.4	} Air and oxygen.
6	—	15	5.6	24	5.6	}
7	4.2	16	4.8	25	4.4	}
8	5.8	17	5.6	26	5.8	} Pure oxygen.
9	6.2	18	6.2	27	6.4	}

The figures given express percentages by volume; they are lower than those that would be obtained if the exhaled gases were collected over water saturated with carbon dioxide. The object of the experiments was to get relative rather than absolute values. In experiments 1, 4, 7, 10, 13, 16, 19, 22 and 25, the gas (air, mixture of air and oxygen, or oxygen) was inhaled for five seconds and then exhaled for five seconds.

In experiments 2, 5, 8, 11, 14, 17, 20, 23 and 26 the lungs were inflated as fully as possible with the gas, which was retained *fifteen* seconds and then exhaled.

In the other experiments, 3, 6, 9, 12, 15, 18, 21, 24 and 27, the lungs were fully inflated and the gas retained *thirty* seconds before exhalation.

WILLIAM B. SCHOBER.
LEHIGH UNIVERSITY.

THE SOCIETY OF AMERICAN BACTERIOLOGISTS.

THE following are abstracts of papers read at the first meeting of the Society of American Bacteriologists, held at New Haven, December 27th to 29th.

Natural varieties of Bacteria: PROFESSOR H. W. CONN.

Professor Conn exhibited some cultures of a highly variable Micrococcus which he had isolated many times from milk. Its color ranged all the way from a snow white to a deep orange, and in power of liquefying gelatin it ranged from a form that liquefied with great rapidity to one that had apparently no liquefying power. All these varieties, with numerous intermediate stages, have been found in nature and are not the result of cultivation. Professor Conn showed, however, what a great change can apparently be produced in the character of a species, by a simple process of selection. Starting with a pure culture of this organism, he was able to produce from it a white and an orange culture, by simply replating many times, and selecting the whitest color, on the one hand, and the